

Episode 55a

Episode 55 March 7, 2023

Residents Against Wood Smoke Emission Particulates (RAWSEP) News and U R L's

<https://rawsepresidents.wordpress.com/1-march-2023-rawsepresidents-pdfs-of-news-posts/> rawsep residents dot wordpress dot com front slash 1 hyphen March hyphen 2023 hyphen rawsepresidents hyphen pdfs hyphen of hyphen news hyphen posts front slash. PDF List of U R L's Episode 54 SCROLL DOWN to SEE PDFs PDFs available for download, in order to search using U R L's ONLINE for entire news articles for Residents Against Wood Smoke Emission Particulates or just to read the PDF and click on the U R L's of articles.

Youtube recordings of EPA Testimony about PM2.5 on 2/21/2023, 2/22/2023 and 2/23/2023 CST 10 AM to 6 PM

<https://www.youtube.com/watch?v=s9B5b51z7pY> February 21, 2023, Recording, 8 hours

<https://www.youtube.com/watch?v=crzJ1g8aCKI> February 22, 2023, Recording, 8 hours

<https://www.youtube.com/watch?v=GlfHXXeiVew> February 23, 2023, Recording, 8 hours

U S, reported in Maine newspapers, and in Bloomberg News

<https://www.epa.gov/office-inspector-general/report-epas-residential-wood-heater-program-does-not-provide-reasonable>

Environmental Protection Agency | [Office of Inspector General](#)

1200 Pennsylvania Avenue, N.W. (2410T) | Washington, DC 20460 | 202-566-2391

[OIG Hotline](#): 1-888-546-8740.

Report: The EPA's Residential Wood Heater Program Does Not Provide Reasonable Assurance that Heaters Are Properly Tested and Certified Before Reaching Consumers

Report #23-E-0012, February 28, 2023

The EPA's ineffective residential wood heater program puts human health and the environment at risk for exposure to dangerous fine-particulate-matter pollution by allowing sales of wood heaters that may not meet emission standards.

Report Materials

[Podcast overview of this report](#) (7:47)

- [Report at a Glance \(pdf\)](#) (306.27 KB)
- [Full Report \(pdf\)](#) (2.03 MB)

RAWSEP analysis of the E P A Watchdog Report #23-E-0012 February 28, 2023

RAWSEPresidents is working to end residential wood stove use to protect the health of near neighbors of residential wood burners.

The many-pronged approach of Residents Against Wood Smoke Emission Particulates is to

- 1.Pass ordinances or laws against residential wood burning that emits particulates above E P A limits. This PM2.5 emission can be measured by PurpleAir monitors placed in the yards of near neighbors of residential wood burners.
- 2.Have the E P A change their PM2.5 limits to 8 micrograms per meter cubed annually and 25 micrograms per meter cubed daily to be closer to the World Health Organization limit of 5 micrograms per meter cubed annually.
- 3.Have the E P A use the hyper-localized PM2.5 monitor data available on PurpleAir online maps, as well as U S AirNow Maps of Smoke and Fire to regulate residential wood burning, rather than use the flawed method of certifying wood stoves which still emit PM2.5. The American Lung Association says no amount of PM2.5 is safe for human health.
- 4.If the flawed strategy of certifying wood stoves continues, to have the strategy of certifying wood stoves be based on scientific methods and current E P A PM2.5 limits both annual and daily, and in laboratories that mimic conditions of real-world particulate emission levels from residential wood stoves. Like the flawed greenwashing strategy of Carbon Capture in factories after Carbon is emitted, allowing Carbon emissions above safe levels on the hypotheses that the PM2.5 from wood burning will be captured at some point after emission is impractical. Preventing Carbon from being emitted in the first place is more cost effective.
- 5.Alternatives to wood burning for heat exist, such as new heat pumps that work the lowest winter temperatures of the Continental United States, those heat pumps powered by solar and wind electricity producing no emissions at all. Government programs such as L I H E A P (Low Income Home Energy Assistance Program) can help low income residents

with alternatives to residential wood burning for heat. Found at <https://www.acf.hhs.gov/ocs/low-income-home-energy-assistance-program-liheap> Current January 31, 2023. The Low Income Home Energy Assistance Program (LIHEAP) helps keep families safe and healthy through initiatives that assist families with energy costs. LIHEAP provides federally funded assistance to reduce the costs associated with home energy bills, energy crises, weatherization, and minor energy-related home repairs. LIHEAP can help you stay warm in the winter and cool in the summer through programs that reduce the risk of health and safety problems that arise from unsafe heating and cooling situations and practices.

O I G's "Watchdog" Report to the E P A #23-E-0012, February 28, 2023
Report at a Glance

The EPA's Residential Wood Heater Program Does Not Provide Reasonable Assurance that Heaters Are Properly Tested and Certified Before Reaching Consumers. The EPA's ineffective residential wood heater program puts **human health and the environment at risk for exposure to dangerous fine-particulate-matter pollution by allowing sales of wood heaters that may not meet emission standards**. The EPA's wood heater program does not provide reasonable assurance that wood heaters are properly tested and certified before reaching consumers. The EPA's 2015 New Source Performance Standards for residential wood heaters are flawed and the EPA has approved methods that lack clarity and **allow too much flexibility**. As a result, certification tests may not be accurate, do not reflect real-world conditions, and **may result in some wood heaters being certified for sale that emit too much particulate-matter pollution**. In fact, **data from an EPA-approved testing lab indicates that some certified wood heaters do not meet emission standards**. Although the EPA withdrew some flawed certification test methods, **wood heaters certified based on those withdrawn test methods remain available for sale**.

Additionally, the EPA lacks internal controls to ensure that certification test reports are valid and that certification tests are conducted appropriately. As a result, test reports contained deficiencies that should have been found during the certification process. Effective internal controls would include policies, procedures, and guidance; standardized certification test report formats; and systematic compliance audit tests. **State** regulators told us that they cannot rely on the EPA's certifications of wood heaters and, therefore, **develop their own standards** and lists of approved wood heaters for sale.

The EPA operates and supports changeout programs intended to replace older, dirtier wood heaters with newer, cleaner models. The EPA distributed approximately \$82 million in grants for residential wood heater changeout programs from fiscal years 2015 through 2021. However, **if the replacement models do not meet emission standards because of the reasons described above, millions of federal, state, and local dollars could be wasted**

We make six recommendations to the EPA, including **clarifying certification test report expectations** in upcoming rule revisions; developing a **reliable certification test method based on real-world conditions**; and implementing internal controls to, among other, **review certification test reports and conduct systematic compliance audit tests**. The Agency disagreed with one recommendation and did not clearly indicate concurrence or nonconcurrence with the others. Therefore, all recommendations are unresolved.

Episode 55b

RAWSEP analysis of the E P A Watchdog Report #23-E-0012 February 28, 2023

RAWSEPresidents is working to end residential wood stove use to protect the health of near neighbors of residential wood burners.

INSPECTOR GENERAL IS THE "WATCHDOG" OF THE EPA

INSPECTOR GENERAL IS THE "WATCHDOG" OF RESIDENTIAL WOOD STOVE CERTIFICATION

The Office of the Inspector General (O I G) of the Environmental Protection Agency (E P A) is known as the "Watchdog" of the EPA. This O I G Watchdog has issued a 2023 criticizing the current method of certification of wood stoves for safety. The O I G watchdog recommends an overhaul of the agency's wood heat program, including the creation of a new cord wood testing method.

HYPER-LOCALIZED PM2.5 AROUND RESIDENCE OF WOOD BURNER, AFFECTING NEAR NEIGHBORS

Particulates from wood burning, even when they don't accumulate across wide areas, they can still pose risks in individual households, also called hyper-localized risks. Wood smoke is 90% PM2.5 size. Particulate matter of 2.5

micrometer size (PM2.5) can be monitored by PurpleAir PM2.5 monitors in yards of near neighbors of Residential Wood Burners.

PURPLEAIR PM2.5 MONITOR DATA ON U S AIRNOW MAPS OF SMOKE AND FIRE

PurpleAir PM2.5 level data showing exceedences of E P A set safe limits of PM2.5, can be downloaded 24 hours a day and 7 days a week from online PurpleAir maps, as well as on U S Airnow Maps of Smoke and Fire, available to the general public and government officials. In that way, governmental officials can view weekend and overnight hyper-localized PM2.5 data.

ORDINANCES OR LAWS AGAINST PM2.5 ABOVE SAFE LIMITS SHOULD SHUT DOWN WOOD STOVE USE, RATHER THAN RELYING ON CERTIFICATION OF WOOD STOVES

If there were ordinances or laws violated concerning PM2.5 limits set for health reasons, governmental authorities could shut down residential wood burning stoves without having to enter the residence of the wood burner. Residents Against Wood Smoke Particulates (RAWSEPresidents) believe it would be cost effective to deal with air pollution at the stack and in hyper-localized areas near the stack, rather than rely on certification of wood stoves for controlling hyper-localized air pollution, eliminating air pollution from one wood stove's PM2.5 emissions.

IF THERE IS NO SAFE LIMIT OF PM2.5 WOOD STOVES FOR HEAT SHOULD NOT BE ALLOWED, OR WOOD STOVES SHOULD NOT BE ALLOWED FOR OTHER PROLONGED USE CAUSING VIOLATION OF SAFE LIMITS OF PM2.5

The American Lung Association believes that any amount of PM2.5 is hazardous to health. The World Health Organization sets the annual limit for PM2.5 at 5 micrograms per meter cubed. The current E P A limits of PM2.5 are set at 12 micrograms per meter cubed annually and 35 micrograms of PM2.5 daily, but are being reviewed after public hearing were held February 21, 22 and 23, 2023. The new limits requested overwhelmingly at the hearings were 8 micrograms per meter cubed annually and 25 micrograms per meter cubed daily.

IN SUMMARY, THE REPORT SAYS

A **new report** from the U.S. Environmental Protection Agency's independent Office of the Inspector General says federal regulators aren't doing enough to ensure that household wood heaters comply with limits on these particulates. "Certification tests may not be accurate, do not reflect real-world conditions, and may result in some wood heaters being certified for sale that emit too much particulate-matter pollution" .

[EPA Watchdog Slams 'Ineffective' Wood Heater Plan in New Report \(1\)](#)

Bloomberg Law News

An EPA residential **wood** heater program leaves homes vulnerable to dangerous **particulate** matter pollution, according to an independent agency ...

[Watchdog says EPA falls short on wood heater oversight - The Maine Monitor](#)

The Maine Monitor

Inconsistent testing allows sale of wood heaters with unhealthy particulate ... "Reducing particle pollution from wood burning devices is key to ... Watchdog says inconsistent U.S. Environmental Protection Agency testing allows sale of wood heaters with unhealthy particulate emissions.

U.S. home heating is fractured in surprising ways: Look up your neighborhood

Washington Post, March 6, 2023

The split shows that much of the South, and rural America, could ditch fossil fuels easier than big cities and the coasts
https://www.washingtonpost.com/climate-environment/interactive/2023/home-electrification-heat-pumps-gas-furnace/?utm_source=twitter&utm_campaign=wp_main&utm_medium=social&fbclid=IwAR3jCy_GS2sBf_wFyw1Oh7ecUEKf7udjE527hY6_ziPZ478Tgxr_0jO6sU

RAWSEP View: The goal should NOT be to ditch fossil fuel burning for home heating and replace it with residential wood burning. The goal should be to stop polluting in order to heat homes.

Excerpt

There are four main ways that Americans heat their homes: [electricity](#), [natural gas](#), propane or fuel oil. In the South, electricity to stay warm. In the Midwest, natural gas and, in rural areas, propane. In the Northeast, [fuel oil still heats many homes](#). In 1960, only [2 percent](#) of homes in the United States were heated by electricity. By 2000, around 29 percent were — and most of them were in the South. Starting in the 1960s, when developers were building new homes across the South, electricity prices started to fall significantly — due in part to the Tennessee Valley Authority’s generous power supply. Today, electricity in the South still tends to be cheaper than in many other areas of the country. Mild winters also made electricity cheap, and heat might only be required for a month or two. In colder regions of the country, however, the calculus was different. First-generation heat pumps, didn’t work when temperatures dipped below freezing. (Modern air-source heat pumps now function [well below](#) freezing temperatures.) That left a few viable options: natural gas in pipelines or truck-delivered liquid fuels such as propane or fuel oil. In more urban areas, natural gas made financial sense. “The question becomes — is (the population) dense enough for us to build the gas infrastructure?” “And not just population density, but how connected the homes are in a region.” Homes using fuel oil or propane, on the other hand, often sat in rural areas without an easy connection to a natural gas network. And in the Northeast, many homes were also built before 1920 of fuel oil furnaces. RAWSEP interjection here NOTHING WRONG WITH NATURAL GAS AS A BRIDGE! Residential wood burning produces 450 times the PM2.5 as a natural gas furnace. End of RAWSEP interjection. Excerpt continues. Areas that now depend on natural gas — urban, heavily populated areas in states such as New York, California, Illinois — also tend to have the most Democratic voters. Climate-focused Democrats are trying to [ban gas hookups](#) in new buildings. Even with a switch from natural gas to a heat pump, in bitterly cold areas, homeowners may also require a backup source of heat that costs more. Republican strongholds — the South and rural areas around the country — stand to gain the most from switching to electricity in general, and heat pumps in particular. In rural areas, moving away from fuel oil and propane will also save cash. According to the nonprofit [Rewiring America](#), homes currently heated by fuel oil will save, on average, \$949 per year by transitioning to an electric heat pump; those heated by propane will save around \$680 a year. In many cold areas of the country, people have been told for years that heat pumps or electric heating won’t keep them fully warm. more incentives might be needed at the local or state level. The federal government has provided one: The Inflation Reduction Act has offered \$2,000 tax credits for heat pumps and will soon add upfront rebates for low-income households. To zero out carbon pollution, every home currently heated by natural gas, propane or fuel oil needs to be moved over to electricity. And the electricity grid also needs to be shifted to cleaner sources such as wind, solar and geothermal energy.

Episode 55c

RAWSEP Analysis

Cold areas of the U S, such as Wisconsin, are areas where more thought has to be put into moving home heating from natural gas to electrification using the new heat pumps that theoretically can continue to work at low temperatures. Anyone who has lived through a cold Wisconsin winter knows that there is no margin for error in home heating, and if that means natural gas furnaces must remain as a backup, so be it. Natural gas is a fossil fuel. But the fossil fuel coal and the non-fossil fuel wood in even a certified wood stove when wood is burned residentially produce more than 450 times the particulates than a natural gas furnace. This article even states “The switch from natural gas to a heat pump will often save money, but the amounts saved vary by location: In bitterly cold areas, homeowners may also require a backup source of heat that costs more.”

According to this article, are there bargains on installing a heat pump that works at low temperatures, in addition to keeping a natural gas furnace as backup in Wisconsin? “The Inflation Reduction Act has offered \$2,000 tax credits for heat pumps and will soon add upfront rebates for low-income households.”

According to this article, are there ways to electrify Wisconsin homes in order for heat pumps to function that are cost effective? “(To zero) out carbon pollution, every home currently heated by natural gas (...) needs to be moved over to electricity. And the electricity grid also needs to be shifted to cleaner sources such as wind, solar and geothermal energy.”

In Wisconsin, according to the article [“In rural areas, moving away from fuel oil and propane will also save cash.”](#) According to the nonprofit [Rewiring America](#), homes currently heated by fuel oil will save, on average, \$949 per year by transitioning to an electric [heat pump](#); those heated by propane will save around \$680 a year.” Unfortunately, if natural gas lines in cold rural areas are difficult or expensive to install, fuel oil or propane may have to be retained as a backup.

The maps of wood smoke use are the most troubling and disturbing for Residents Against Wood Smoke Emission Particulates (RAWSEPresidents.wordpress.com has downloadable PDFs of URLs of news and research articles, with 10 minute videos on Tiktok and Youtube and 30 minute podcasts on Spotify and Podbean.)

It is disturbing to see that large areas of the United States, the most prosperous nation in the world, choose to burn wood for heat, exposing themselves and their neighbors to a form of heat that has 90% of emissions in the form of particulates of 2.5 micrometer size (PM2.5) the perfect size to infiltrate the human lung, producing a cascade of human health problems and early deaths. Much wood burning is done in affluent neighborhoods where fireplaces are built in, in the ignorant belief that wood burning pollution, because it is not fossil fuel pollution, is not harmful to human health, or that ambience and the hobby of wood burning is more important than human health.

Areas which are not cold parts of the United States, California and New Mexico in particular, practice wood burning, although their weather is very conducive to using heat pumps and electrification from solar and wind.

Sometimes the analogy of Mothers Against Drunk Driving (M A D D) with Residents Against Wood Smoke Emission Particulates (RAWSEP or RAWSEPresidents) is especially on point. An education campaign and nationwide laws against both practices, drunk driving and residential wood burning, were and are necessary in order to protect human beings and their neighbors from their own worst impulses. Individuals need to take responsibility for their own role in PM2.5 pollution. Laws should be passed against residential wood burning that pollutes and affects the health and lives of near neighbors. Those laws should be enforced by use of PM2.5 monitors put in the homes of near neighbors of residential wood burners. This hyper-localized PM2.5 data from PurpleAir PM2.5 monitors, monitors available for less than \$300 (and hopefully subsidized to residents in the near future by the government for this purpose) post data every 10 minutes on the Purpleair online map and the U S Airnow Map of Fire and Smoke. That PM2.5 data is available to the general public and government officials 24 hours a day, 7 days a week, so that weekend and overnight data can be downloaded by government officials and use to enforce regulations and shut down residential wood burning, during normal government working hours, without having to enter the residence of a wood burner.

The United States government is taking steps toward better regulation and enforcement of laws against PM2.5 polluting residential wood burning. The Environmental Protection Agency (E P A) is working toward lowering the PM2.5 daily safe limit to 8 micrograms per meter cubed, down from 12, and working toward lowering the daily (spike) PM2.5 daily safe limit to 25 micrograms per meter cubed, down from 35. E P A public hearing were held on this subject on February 21, 22, and 23, 2023. The Office of Inspector General (O I G), considered the “watchdog” of the E P A, wrote a report to the E P A on February 28, 2023 stating that the current certification of wood stoves by the E P A is deeply flawed and produces wood stoves still being sold that are certified but remain highly polluting. The American Lung Association’s view is that any amount of PM2.5 causes harm to human health. U S Scientists in 2020 sent a letter to the U S Congress decrying the idea that wood burning is carbon neutral. The European Union in 2022 stopped subsidies for many kinds of biomass (wood) burning. In London, England, and in other parts of England, residential wood burning surpasses traffic emissions as a source of PM2.5 pollution, and the London mayor has endorsed a plan to effectively ban wood burning in London. These examples should be looked to by the United States, the wealthiest and most resourceful country in the world, to solve a hyper-polarized but very real sources of pollution that harms human health, residential wood burning.

Concern about the environment spans political parties, and RAWSEP believes that if cost-effective solutions to stop burning wood for heat are available, it will not matter if the recipient is Republican or Democrat, practicality and when the truth about the health effects of residential wood burning has been adequately publicized, concern about their own health will incline Americans of all stripes to choose not to burn wood for residential heat, or choose not to break any law against polluting residential wood burning. The words “fossil fuel” trip off the tongue, but the equal or greater threat hyper-locally to human health is residential wood burning, burning of a non-fossil fuel which is NOT carbon neutral.

Episode 55d

[Research identifies best and worst performing cities in reducing air pollution](#)

Air Quality News

... 5 micrograms of PM2.5 per cubic meter of air ($\mu\text{g}/\text{m}^3$) while in low and middle-income countries only 1% of cities complied with that threshold.⁷

[How Bioenergy Causes Air Pollution: The Dark Side of Renewable Energy](#)

Pressenza - International Press Agency

Making wood pellets creates a variety of pollutants, including particulates (fine dust), carbon monoxide, nitrogen, and other hazardous air pollutants ...

Alabama

[Alabama landfill fire raises questions about how landfills are regulated | KERA News](#)

KERA News

HODGIN: It's not yet known how the fire started, but the smoke has continued for months. KRISSEY HARMON: It doesn't smell like a wood-burning fire at ...KRISSEY HARMON: It doesn't smell like a wood-burning fire at all. HODGIN: Krissy Harmon lives in a lake house less than a half a mile from the ...

Alaska, Fairbanks

[Chamber weighs in on EPA proposed sanctions | Local News | newsminer.com](#)

Fairbanks Daily News-Miner

Wood smoke rises from an ice fishing hut on Chena Lake. The borough's nonattainment area, which includes Fairbanks and North Pole, has had some of ...

Alaska, Interior

[Interior Delegation United in Opposition to Proposed Air Quality Regulations for the ...](#)

Alaska Native News

Wood smoke pollution in 2004 South Fairbanks at a level of approximately 900 micrograms per cubic meter. Image-State of Alaska.

California

California, Central Valley

[Why you should replace old wood in your fireplace | YourCentralValley.com](#)

YourCentralValley.com

They say the old wood-burning devices release harmful particles into the valley's air. "We are passionate about this because PM 2.5 is a very, very ...

California, Clovis

['Fireplace Change-Out Show & Tell' Urges Public to Switch Out Old Wood Burning ...](#)

Clovis Roundup

... can replace old wood or pellet burning "devices" with new, cleaner, ... pollutant that is released into the air by older wood burning devices. The San Joaquin Valley Air Pollution Control District working with retailers such as Ponderosa Hearth and Home out of Clovis, can replace old wood or ...Programs such as this help to reduce particulate matter, one specific to the Central Valley known as PM 2.5, by reducing the amount of the ...

California, Fresno

[Why you should replace old wood in your fireplace | YourCentralValley.com](#)

YourCentralValley.com

FRESNO, Calif. (KSEE/KGPE) – The valley's Air Pollution Control District wants people to change out their old wood or pellet-burning fireplace. They say the old wood-burning devices release harmful particles into the valley's air. "We are passionate about this because **PM 2.5** is a very, very ...

California, Northern

[Winter storm impacts Northern California residents, Caltrans workers, more - ABC10](#)

ABC10

They still only have their wood burning fire place to keep warm while their generator runs for one to two hours a day for water and sewer.

California, Sierra foothills

[Life without power in the storm-damaged Sierra foothills | Forum | sfexaminer.com](#)

San Francisco Examiner

My wife, Shannon, and I have been in the dark for most of the week — huddled in our ski jackets and mittens next to a wood-burning stove.

Colorado

Colorado, Boulder

[Irrigation ditch **burning** set to begin Sunday - Boulder Daily Camera](#)

Boulder Daily Camera

... the management program asks those concerned to visit The Colorado Department of Public Health & Environment **Wood Smoke** and Health website and ...

Colorado, Denver

[Denver air pollution dropped 3rd-most in country over recent years | OutThere Colorado](#)

OutThere Colorado

HouseFresh.com considered the presence of **particulate matter 2.5 (PM 2.5** micrograms per cubic meter of air) around the world between 2019 and 2022 ...

Montana

[DEQ Announces Open **Burning** Season - State of Montana Newsroom](#)

State of Montana Newsroom - Montana.gov

Only clean, untreated **wood** and plant material can be **burned**. Do not **burn**: food wastes, plastics, **wood** that has been coated, painted, stained, ...

Utah

[USU researchers looking at Cache Valley's ammonia concentrations](#)

Cache Valley Daily

Particulate matter that is **2.5** microns or less in diameter is the size of particle we can breathe in and it can get into our lungs.

Canada

Australia

New Zealand

[Aerosol chemist: We need to stop **burning wood** to curb country's silent killers - Newstalk ZB](#)

Newstalk ZB

A well-known scientist says New Zealanders need to stop **burning wood**, to help curb two of the country's silent killers. Stats NZ indicator data, ...

United Kingdom, U K

U K, London

[Firewood theft: The forests where trees are going missing - BBC Future](#)

BBC

Though the impacts of burning wood on health and environment vary depending on the type of stove used and **wood burned**, there is no doubt that burning ..

[ITV This Morning doctor's urgent 'toxic' log **burner** warning to two high risk groups | Science](#)

Daily Express

Wood-burning stoves can have a direct affect on the lungs of babies, children and adults due to the air particle pollution they emit..

[Committee could look at case for banning **wood** burners in towns and cities - Daily Mail](#)

Daily Mail

Government data show that woodburning stoves emit more **particulate** pollution, the most deadly form of pollution, than road transport. Around 17 per ...

[For Ella: New Regulation on Horizon for Air Pollution in UK - Envirotech Online](#)

Envirotech Online

Instead, she backs investing in public transport and making it cleaner and cheaper. She also says **wood-burning** in homes in the city is terrible.

[UK MPs could weigh merits of urban ban on domestic **wood** burning - The Guardian](#)

The Guardian

Wood burning is one of biggest sources of small **particle** pollution in Britain, having doubled in a decade.

[Are **wood** burning stoves bad for the environment and your health? - National World](#)

National World

According to a government report they are the biggest source of PM2.5 pollution - fine **particles** which can reach the lungs and cause short-term health ...

[Demand for Wood Stoves Increases in Urban Areas Despite Its Harmful Effects to the Environment](#)

Nature World News

Domestic combustion is the single most significant source of small particulate (PM2.5) air pollution in the UK, surpassing road traffic. Demand For ...

[Demand for **Wood** Stoves Increases in Urban Areas Despite Its Harmful Effects to the Environment](#)

Nature World News

Domestic combustion is the single most significant source of small **particulate** (PM2.5) air pollution in the UK, surpassing road traffic. Demand For ...

U K, Islington

[Wood burners will be 'socially unacceptable' - Islington Tribune](#)

Islington Tribune

Prof James Heydon. OWNING a **wood-burning** stove will become “socially unacceptable” in the future, a pollution expert has predicted, ... Dangerously high levels of **particulate** matter were found when passing a household where fuel was being burned and the report said that heating with ...

[Gary Fuller on Twitter: "Home wood heating played a big role in #london's #airpollution last ... - twitter.com](#)

U K, Leicester

['Toxic' wood burner health warning issued by ITV This Morning doctor - Leicestershire Live](#)

Leicester Mercury

Studies have revealed that the **burning** of solid fuel, such as **wood** and coal, at home produces around 39 per cent of the particle pollution (PM2.5) ...

Europe

Russia, Georgia and Azerbaijan

[Two video stories about the life of people in NK after the blockade of the Lachin corridor](#)

JAMnews

It is warm in Arev's house, the son again installed a **wood-burning** stove in the house, which was used during the war.

Africa

Asia

India, Air conditioners with PM2.5 Filters

[12 Best AC in India from the best selling brands \[2023\] - The Economic Times](#)

The Economic Times

PM 2.5 filter 100% copper coils · Inverter Compressor Variable speed compressor · Flexicool Inverter Technology · Variable speed inverter compressor

India, Car PM2.5 filters

[Honda launches 2023 Honda City Facelift in India: Price and features](#)

East Coast Daily English

The 2023 City facelift comes packed with Wireless Apple CarPlay and Android Auto, **PM 2.5** Cabin Air filter, Remote control operation via Smart ...

[New 2023 Honda City Prices Revealed - All Key Changes Explained - India Car News](#)

India Car News

The new 2023 Honda City also gets wireless Android Auto and Apple CarPlay, wireless charger, rain sensing auto wiper and **PM 2.5** cabin airfilter.

India, Chhattisgarh

India, Chhattisgarh

[13-Year-Old Girl Fed **Burning Wood** During 'Exorcism' In Chhattisgarh - NDTV.com](#)

NDTV.com

A 13-year-old girl was seriously injured after she was thrashed and a **burning** piece of **wood** was thrust into her mouth in an ashram in Mahasamund ...

India, Delhi

[Light showers, Delhi, Gurugram's AQI improves slightly - Tribune India](#)

Tribune India

The **PM 2.5** and PM 10 levels stood at 137 and 252, respectively. Ad. Gurugram reported an average AQI of 120 (moderate), while the Sector 51 zone ...

India, Kochi

[As Fire Smoulders, Pollution In Kochi Worsens - Times of India](#)

Times of India

At the air quality monitoring station at Vyttila Mobility Hub, the levels of particulate matter finer than 2.5 micro metres (**PM 2.5**) were recorded ...

[Air quality bad in parts of Kochi due to waste plant fire - The Federal](#)

The Federal

The level of **PM 2.5**, tiny particulate matter less than 2.5 microns in diameter that can enter deep into the lungs and even the bloodstream, was found ...

[Not Kochi, it's Pollution Control Board station equipment that is choking!](#)

The New Indian Express

"The values of **PM 2.5** and PM 10 at Vyttila are on the higher side. These particulates are expelled in large concentrations from the exhaust of ...

India, Pune

[Doctors blame Pune air quality for black patches in lungs - Times of India](#)

Times of India

It's the concentration of carcinogenic **particulate matter 2.5** (PM2.5) in ... (AQI) scale since October last year, was full of particulate matter.

India, Shivajinagar

[City reports poor air quality - Hindustan Times](#)

Hindustan Times

As per SAFAR, Shivajinagar reported a **PM 2.5** particle concentration of 307 which was a "very poor" category. Alandi reported 300 AQI in the "poor" ...

Research Papers on Health Effects of PM2.5 (wood smoke is 90% PM2.5)

Allergic Rhinitis and PM2.5 (wood smoke is 90% PM2.5)

[Allergic rhinitis children with obesity are more vulnerable to air pollution: a cross sectional study](#)

Nature

When exposed to higher concentrations of CO, PM10, and **PM2.5**, the rates of worse nasal discomfort were 39.4%, 44.4% and 39.3% in obese children; ...

Intensive Care Unit (I C U) Admissions and PM2.5 (wood smoke is 90% PM2.5)

Warming and PM2.5 (wood smoke is 90% PM2.5)

[Warming May Amplify Plant Emissions and Dust, Endangering Future Air Quality | Weather.com](#)

The Weather Channel

Changes in **PM 2.5** surface concentration after 4 degrees of warming, black dots symbolise statistically significant changes.

Colorado

Colorado, Boulder

[Irrigation ditch burning set to begin Sunday - Boulder Daily Camera](#)

Boulder Daily Camera

... the management program asks those concerned to visit The Colorado Department of Public Health & Environment Wood Smoke and Health website and ...

Colorado, Denver

[Denver air pollution dropped 3rd-most in country over recent years | OutThere Colorado](#)

OutThere Colorado

HouseFresh.com considered the presence of particulate matter 2.5 (PM 2.5 micrograms per cubic meter of air) around the world between 2019 and 2022 ...

Montana

[DEQ Announces Open Burning Season - State of Montana Newsroom](#)

State of Montana Newsroom - Montana.gov

Only clean, untreated wood and plant material can be burned. Do not burn: food wastes, plastics, wood that has been coated, painted, stained, ...

Utah

[USU researchers looking at Cache Valley's ammonia concentrations](#)

Cache Valley Daily

Particulate matter that is 2.5 microns or less in diameter is the size of particle we can breathe in and it can get into our lungs.

Canada

Australia

New Zealand

[Aerosol chemist: We need to stop burning wood to curb country's silent killers - Newstalk ZB](#)

Newstalk ZB

A well-known scientist says New Zealanders need to stop burning wood, to help curb two of the country's silent killers. Stats NZ indicator data, ...

United Kingdom, U K

U K, London

[Firewood theft: The forests where trees are going missing - BBC Future](#)

BBC

Though the impacts of burning wood on health and environment vary depending on the type of stove used and wood burned, there is no doubt that burning ..

[ITV This Morning doctor's urgent 'toxic' log burner warning to two high risk groups | Science](#)

Daily Express

Wood-burning stoves can have a direct affect on the lungs of babies, children and adults due to the air particle pollution they emit..

[Committee could look at case for banning wood burners in towns and cities - Daily Mail](#)

Daily Mail

Government data show that woodburning stoves emit more particulate pollution, the most deadly form of pollution, than road transport. Around 17 per ...

[For Ella: New Regulation on Horizon for Air Pollution in UK - Envirotech Online](#)

Envirotech Online

Instead, she backs investing in public transport and making it cleaner and cheaper. She also says wood-burning in homes in the city is terrible.

[UK MPs could weigh merits of urban ban on domestic wood burning - The Guardian](#)

The Guardian

Wood burning is one of biggest sources of small particle pollution in Britain, having doubled in a decade.

[Are wood burning stoves bad for the environment and your health? - National World](#)

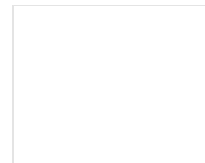
National World

According to a government report they are the biggest source of PM2.5 pollution - fine particles which can reach the lungs and cause short-term health ...

[Demand for Wood Stoves Increases in Urban Areas Despite Its Harmful Effects to the Environment](#)

Nature World News

Domestic combustion is the single most significant source of small particulate (PM2.5) air pollution in the UK, surpassing road traffic. Demand For ...



['Forget wood burners – I'm worried my hob is poisoning me' - The Telegraph](#)

The Telegraph

... of using gas and other pollutants such as wood burners in our homes (the smoke from a wood-burning stove releases a variety of pollutants, wood burners in our homes (the smoke from a wood-burning stove releases a variety of pollutants, mainly in the form of toxic gases, particle ...'Forget wood burners – I'm worried my hob is poisoning me'. Always been team gas? Using a carbon dioxide monitor to check your home's air quality ...

U K, Islington

[Wood burners will be 'socially unacceptable' - Islington Tribune](#)

Islington Tribune

Prof James Heydon. OWNING a wood-burning stove will become “socially unacceptable” in the future, a pollution expert has predicted, ... Dangerously high levels of particulate matter were found when passing a household where fuel was being burned and the report said that heating with ...

[Gary Fuller on Twitter: "Home wood heating played a big role in #London's #airpollution last ... - twitter.com](#)

U K, Leicester

['Toxic' wood burner health warning issued by ITV This Morning doctor - Leicestershire Live](#)

Leicester Mercury

Studies have revealed that the burning of solid fuel, such as wood and coal, at home produces around 39 per cent of the particle pollution (PM2.5) ...

Episode 55e

Europe

Russia, Georgia and Azerbaijan

[Two video stories about the life of people in NK after the blockade of the Lachin corridor](#)

JAMnews

It is warm in Arev's house, the son again installed a wood-burning stove in the house, which was used during the war.

Africa

Asia

China

[Nation ready to further promote green transition - Chinadaily.com.cn](#)

China Daily

... the annual density of PM 2.5, particulate matter with a diameter of 2.5 micrometers or less, for instance, has fallen for nine straight years.

India, Air conditioners with PM2.5 Filters

[12 Best AC in India from the best selling brands \[2023\] - The Economic Times](#)

The Economic Times

PM 2.5 filter 100% copper coils · Inverter Compressor Variable speed compressor · Flexicool Inverter Technology · Variable speed inverter compressor

India, Car PM2.5 filters

[Honda launches 2023 Honda City Facelift in India: Price and features](#)

East Coast Daily English

The 2023 City facelift comes packed with Wireless Apple CarPlay and Android Auto, PM 2.5 Cabin Air filter, Remote control operation via Smart ...

[New 2023 Honda City Prices Revealed - All Key Changes Explained - India Car News](#)

India Car News

The new 2023 Honda City also gets wireless Android Auto and Apple CarPlay, wireless charger, rain sensing auto wiper and PM 2.5 cabin airfilter.

India, Brahmapuram

[Brahmapuram: Choking In B'puram: Families Flee Bad Air | Kochi News - Times of India](#)

Times of India

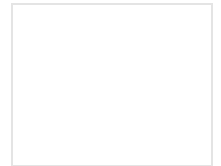
At the air quality monitoring station at Vytilla Mobility Hub the levels of particulate matter finer than 2.5 micro metres (PM 2.5) were recorded ...

India, Chhattisgarh

[13-Year-Old Girl Fed Burning Wood During 'Exorcism' In Chhattisgarh - NDTV.com](#)

NDTV.com

A 13-year-old girl was seriously injured after she was thrashed and a burning piece of wood was thrust into her mouth in an ashram in Mahasamund ...



India, Delhi

[Light showers, Delhi, Gurugram's AQI improves slightly - Tribune India](#)

Tribune India

The PM 2.5 and PM 10 levels stood at 137 and 252, respectively. Ad. Gurugram reported an average AQI of 120 (moderate), while the Sector 51 zone ...

India, Gurgaon

[Now, remote sensors to keep track of vehicular emissions in Gurgaon - Times of India](#)

Times of India

Roychowdhury said a study for Delhi had found that emissions from traffic contribute around 17% to PM 2.5 pollutants - tiny particles that can get ...

India, Kochi

[Air quality bad in parts of Kochi due to waste plant fire - The Federal](#)

The Federal

The level of PM 2.5, tiny particulate matter less than 2.5 microns in diameter that can enter deep into the lungs and even the bloodstream, was found ...

[Kochi waste dump fire under control but air quality dips - Hindustan Times](#)

Hindustan Times

He said it was the highest increase in PM 2.5 (particulate matter refers to tiny particles or droplets in the air that are two and a half microns ...

[Not Kochi, it's Pollution Control Board station equipment that is choking!](#)

The New Indian Express

"The values of PM 2.5 and PM 10 at Vyttila are on the higher side. These particulates are expelled in large concentrations from the exhaust of ...

[What has Brahmapuram smoke done to Kochi's air and people's health? - Onmanorama](#)

Onmanorama

"On Saturday morning, Kochi's PM2.5 and PM 10 levels were really high. ... PM2.5 is particulate matter 2.5 micrometers or less in diameter.

[As Fire Smoulders, Pollution In Kochi Worsens - Times of India](#)

Times of India

At the air quality monitoring station at Vyttila Mobility Hub, the levels of particulate matter finer than 2.5 micro metres (PM 2.5) were recorded ...

India, Mathrubhumi

[Stay indoors; Residents urged to wear N95 masks as air quality hits new low](#)

Mathrubhumi English

The level of PM 2.5 (particulate matter) hit 441 micrograms per cubic metre at 10 pm on Sunday, which is an extremely dangerous condition.

India, Pune

[Doctors blame Pune air quality for black patches in lungs - Times of India](#)

Times of India

It's the concentration of carcinogenic particulate matter 2.5 (PM2.5) in ... (AQI) scale since October last year, was full of particulate matter.

India, Shivajinagar

[City reports poor air quality - Hindustan Times](#)

Hindustan Times

As per SAFAR, Shivajinagar reported a PM 2.5 particle concentration of 307 which was a "very poor" category. Alandi reported 300 AQI in the "poor" ...

Research Papers on Health Effects of PM2.5 (wood smoke is 90% PM2.5)

Allergic Rhinitis and PM2.5 (wood smoke is 90% PM2.5)

[Allergic rhinitis children with obesity are more vulnerable to air pollution: a cross sectional study](#)

Nature

When exposed to higher concentrations of CO, PM10, and PM2.5, the rates of worse nasal discomfort were 39.4%, 44.4% and 39.3% in obese children; ...

Intensive Care Unit (I C U) Admissions and PM2.5 (wood smoke is 90% PM2.5)

Warming and PM2.5 (wood smoke is 90% PM2.5)

[Warming May Amplify Plant Emissions and Dust, Endangering Future Air Quality | Weather.com](#)

The Weather Channel

Changes in PM 2.5 surface concentration after 4 degrees of warming, black dots symbolise statistically significant changes.